Lambda Expressions in C++14 Solutions

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Generic Lambda Expressions

- What is meant by a generic lambda?
  - In a generic lambda, the function arguments have type "auto"
  - The argument type is deduced by the compiler, depending on how the lambda is called
  - Similar to a template function

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Generic Lambda Example

- Write generic lambda which adds its arguments and returns the result
- Write a program which calls your lambda function with arguments of type
  - int
  - double
  - std::string

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Local Variables in Lambda

- How can we create a variable which is local to a lambda?
  - Put the variable, with an initializer, in the capture block
- Does the variable need to be declared auto?
  - No, the type is auto by implication
- Does the variable need to be initialized?
  - Yes (so the compiler can deduce the type)
- Write a program which uses a lambda with a local variable

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Generalized capture with initialization

- Can we initialize a lambda-local variable from a captured variable?
  - Yes, just use the captured variable as the initializer
- What syntax do we use to capture the variable?
  - None. The variable is captured by implication
- Write a program which uses a lambda with a local variable which is initialized from a captured variable

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